

CLAY TOBACCO PIPES, ST JOHN'S COLLEGE, OXFORD (OXJL 16)

by *Dr D A Higgins*

Introduction

This report deals with the clay tobacco pipes recovered by Oxford Archaeology during the 2016 excavations at St John's College, Oxford, for a new library extension. The site code used for this work was OXJL 16. The pipe fragments have been individually examined and a summary of each context group logged on an Excel worksheet, a copy of which forms part of the site archive. The layout of the worksheet is based on the clay tobacco pipe recording system and methodology that has been developed at the University of Liverpool (Higgins & Davey, 2004; Higgins 2017a). The summary lists number of bowl (B), stem (S) and mouthpiece fragments (M) from each context and gives two dates for them, the 'range' being the widest possible range represented by the pipe fragments and the 'deposit' being the most likely date of deposition, based on an assessment of group as a whole and/or the latest closely datable pieces present. The worksheet also notes the number of identifiable bowl fragments with round heels (RH), tailed heels (TH) or spurs (Sp) represented in each group. 'Die numbers' and 'cast numbers' refer to the as yet unpublished catalogue of pipe marks that is being compiled by the author, a copy of which can be consulted at the National Pipe Archive in Liverpool. The pipes recovered provide an accurate means of dating the contexts within which they occur and the context summary is important in providing this information in an easily accessible way as part of the site archive.

The pipe assemblage

The OXJL 16 excavations produced a total of 878 fragments of pipe, comprising 172 bowl, 667 stem and 39 mouthpiece fragments from 22 different contexts. The assemblage as a whole is significant for three reasons. First, it has produced some of the very earliest pipe forms, dating from c1580-1610, which are nationally rare. Second, it has produced a sequence of large pipe groups ranging from c1640-60 in date that provide what are probably the best Civil War and Commonwealth assemblages to have been recovered from Oxford to date. Finally, the marked and decorated pipes include some previously unrecorded types and add to the corpus of known types from the city.

Although some very early pieces are present, the majority of the fragments date from c1640-1660 (Figs 2-44) with late eighteenth- and nineteenth-century material being almost completely absent. The majority of the pipes are plain and unmarked and many of the plain bowl forms from smaller context groups are similar to examples recovered from previous excavations in the city and so will not be dealt with in any detail. In contrast, the more significant pieces and context groups, as well as the marked examples, will be described and discussed in this report.

The only other pieces worth mentioning are four stem fragments, three of which come from context 207. This is a later pit fill within the same mid-seventeenth century deposits that are discussed in more detail below, and which probably contains material disturbed from them. At least one and possibly two of the stems have been pinched while still soft to create 'barley twist' decoration, bringing the total number of such fragments from this site to nine. The other seven all come from the underlying deposits of c1640-60, which is the likely date and origin of these pieces too. The third notable stem from this context probably dates from c1640-70 and has part of a single band of milling around it, which appears to have been used to disguise a repair to the stem made during manufacture. This appears to have been a widespread practice at the time, having been noted by the author from various sites across the country.

A similar repair to a stem fragment from context 1003 is evident. In this instance the stem is particularly unusual in that there are clear radial ridges across surface of one broken end. These appear to have been formed by the soft clay having been pushed into corresponding grooves while still soft. The stem must have broken and the pipemaker scored cuts across one broken surface to act as a

key before pushing the other against it against it. This must have worked and the join was well disguised since there is no obvious surface deformation around the broken edge and the stem has been finely burnished, with the burnish lines running straight over the mended section. The stem is quite thick and made of a local fabric with fine sandy inclusions. It has a stem bore of 6/64" and probably dates from the very late seventeenth century or earlier part of the eighteenth century. Interestingly, this context also produced a clay roll that is almost certainly debris from a pipe kiln (Fig 49). The fragment been simply hand-rolled and then one end pinched off to break it. Rolls such as this were typically used to help bed and stabilise the unfired pipes when loading the kiln but were discarded afterwards, since they could not be reused.

The early pipes

Two fragments of the earliest recognisable pipe forms were recovered from the excavations (Atkinson & Oswald 1969, Types 1-3, dating from c1580-1610). Tobacco during this period was very expensive and smoking a new introduction that was largely confined to those who could afford it or had access to foreign ships/ports where tobacco could be obtained. Examples of these early pipes are very rare and, so far as the author is aware, none has previously been recorded from Oxford, despite the concentration of wealthy and well-connected individuals who visited or lived in the city.

One of the early examples was the only pipe find from context 319 and is a finely burnished piece stamped with the maker's initials TB (Fig 1). The mark is discussed in more detail below, but it is stylistically similar to the incuse initials RC that are attributed to the early pipemaker Robert Cotton, who left England in 1607 (Higgins 2012), suggesting that it may belong to the latter part of the 1580-1610 date range. The other piece is more fragmentary (Fig 2) and was residual in context 1205. Although this is also polished, the burnish is only of a poor quality and this appears to have been a much less accomplished piece. It is also likely to date from towards the end of the 1580-1610 range. The presence of these two pieces is significant in providing evidence for the early adoption of smoking in Oxford and, in particular, on this site.

Principal context groups

The majority of the pipes from these excavations (just over 86%) came from just four of the mid-seventeenth century fills of a single quarry pit (context 225). These four contexts (209, 224, 285 and 286) form a single stratigraphic sequence with 209 being the latest and 286 the earliest. Taken together, these contexts produced 759 pipe fragments (155 bowl, 569 stem and 35 mouthpieces). All four groups include large numbers of complete bowls, often with reasonably long stem sections surviving, and their generally crisp and unabraded nature points to this material being freshly discarded waste. Despite this, very low levels of joins were found within or between these contexts so that it is unlikely that complete pipes are present, particularly since mouthpieces are under-represented in the sample collected. Equally, the very low level of stem junction to bowl joins shows that the material recovered only represents a small proportion of that which originally existed. The large numbers of pipes represented clearly indicates that smoking was commonplace on the site at this time.

When the individual context groups were examined in detail, it became clear that there was a marked division between the latest context (209) and the earlier three. The earlier three contexts all contained very similar looking bowl forms with little evidence of residual or intrusive types and, specifically, they shared several mould types in common. These three contexts clearly form a contemporary, or near contemporary, series of deposits and so can be considered collectively. In contrast, context 209 contained a different looking range of bowl forms, none of which can be exactly matched in the earlier three deposits. This group clearly belongs to a different phase of deposition. This is a significant distinction since, had just typological dates had been applied, this group may well have been considered to overlap or to have been contemporary with the earlier fills.

In terms of absolute dating, the earlier three deposits included an MH mark (Fig 19) which can be attributed to Miles Higges of Oxford who was active from c1630 until his death in 1643 (Higgins 2017b). His widow, however, continued to run the business and subsequently remarried to John Taylor, who took his freedom in 1649. It is likely, therefore, that MH marks would have continued to be used until at least 1649, when Taylor would have been able to trade in his own right. The dating for these deposits can be refined from the coin evidence since they also produced 12 farthings of types issued between 1625 and 1644. The earliest context stratigraphically is 286, which produced a type issued in 1636, thus providing a *terminus post quem* for all three of the early groups. Furthermore, the next group (285) included a type issued between 1639 and 1643, which suggests that these deposits are unlikely to be any earlier than c1640 in date. At the other end of the range, the bowl forms themselves are unlikely to be any later than c1650 and the later deposit above (209) includes a mark of John Taylor, who took his freedom in 1649 and died in 1684 (Higgins 2017b). The earlier group also includes the MH mark that should be before 1649 and so these contexts fall neatly within the decade 1640-1650, thus spanning the Civil War period in Oxford.

In contrast, the later deposit (209) must date from after 1649 (the John Taylor mark) but cannot be any later than c1670, based on the bowl forms. The coins do not help in this instance (four farthings of types issued between 1625 and 1644), since these would have remained in circulation for some time after their production. There is, however, a pit group of c1650-70 from The Queen's College in Oxford (Higgins 2017b; context 1085) that can be compared with this group. The Queen's College finds show a number of differences (in particular slightly larger bowl forms and heel sizes), which suggests that that group must be later in date. Given that both deposits are broadly datable to c1650-70, it seems that the St John's College group must be earlier within this range, say 1650-60, while the Queen's College group can now be pushed back to c1660-70. The recent Queen's College excavations also produced an earlier closely dated pit group of c1630-45 (Higgins 2017b). This gives an unusually precise dated sequence whereby four key groups (two from St John's and two from Queen's) can each be attributed a 10 to 15 year period of deposition, collectively spanning the 1630-1670 range in Oxford. Furthermore, each of these three groups has produced a reasonably large assemblage of pipes, which allows them to be compared and contrasted in some detail. The two key groups from St John's are presented in detail below, with reference to the Queen's College groups (Higgins 2017b) as appropriate.

The methodology for examining these groups has been to compare the bowl forms in detail looking for mould flaws and, so far as possible, to arrange them into individual mould types, i.e., groups of pipes manufactured from the same mould. Where the specific mould type could not be established, the pipes were grouped into closely similar forms. These various types were then illustrated and details tabulated for all the examples within each group. This shows which types are the most common (representative) within each group as well as allowing comparison of their specific manufacturing and finishing attributes.

A note has also been made of any pipes made from a distinctive local clay, which is characterised by the presence of numerous very fine sandy particles. These are sometimes evident to the naked eye, since the grains vary in size between pipes, presumably as a result of different clay beds having been exploited. In other cases the sand grains can only be discerned with a 10x hand lens and it is possible that even finer varieties exist that would require microscopic or petrological analysis to identify. Despite these reservations, many examples made of this local clay can be positively identified with the aid of a 10x lens and it is often in the finished surface of the pipe rather than the broken section that these inclusions are most evident. Those fabrics with coarser grains typically appear to have an 'orange peel' appearance under the lens, with the sandy particles standing slightly proud of the fired surface. The cut surface of the heel is usually a good area to examine, since the slicing action of trimming the partially dry clay not only exposes these grains but also tends to drag larger inclusions through the clay, exposing their presence. This fine sandy clay was almost certainly obtained at Shotover Hill, some three miles east of Oxford, as described by Plot (1677, 65-66), who says, "at Shotover-hill there is *white clay*, . . . which during the late wars, in the siege of Oxford, was wholly

used for making *Tobacco-pipes* there; and is still in part put to that service, mixed with another they have from *Northampton-shire*." The use of this clay, both chronologically and geographically, is discussed further in the St John's report (Higgins 2017b).

A possibly related issue is that some of the fragments have a very glossy surface that appears to be a natural property of the clay. This raises the question of whether a specific clay type or source is also represented by this fabric, but the gradations between one example and another are not sufficiently clear to reliably separate them by eye. This glossy characteristic can also lead to difficulty in establishing whether a pipe has been burnished or not and so care has been taken to look for the slight facets caused by the burnishing tool to identify this type of finish. Similarly, some of the fragments have what appears to be a very fine shiny surface layer on them, which appears to be some sort of fine flash-glaze. Many of the pipes are quite hard fired and so the glossy finish may be the result of a high firing temperature causing slight vitrification of the surface, perhaps exacerbated by the sandy inclusions if a local clay was being used. Further work would clearly be worthwhile to explore the specific types of clay being used to make these pipes and how these fabrics many have affected the final surface finish obtained.

The 1640-1650 deposits

Contexts 224, 285 and 286 form a sequence of overlying fills that must have been deposited as part of the same event, or very soon after one another. They can all be dated to c1640-50 and so are considered collectively here, especially since there are many shared mould types represented in the three contexts, showing that the majority of the finds were produced in the same few workshops. There are also some similar forms in context 207, a later pit in the same sequence of quarry fills, but those finds were probably redeposited c1650-70 and so have not been included here. The unusually precise dating afforded by the undisturbed sequence of quarry pit fills allows the pipes being produced and used in Oxford during the Civil War period to be recorded and analysed with great precision.

The first point to note is that, when compared with the existing typologies (e.g., Atkinson & Oswald 1969), some of the bowl forms would normally be dated rather earlier than 1640-50. The smallest spur forms, for example (Figs 3-4), would normally be placed within a 1610-40 range. While it is possible that some older bowl styles were still in production, or that some residual material is present within these groups, there is a general uniformity to the bowl sizes, styles and condition when they are considered collectively and these smaller forms do not look particularly out of place when compared with the other spur bowls. The pipes from the three early contexts appear to form a coherent group and so it seems more likely that some of these smaller forms continued being produced into the 1640s rather than their being residual. This may mean revising some of the generally accepted dates for bowl forms produced in the Oxford area. There are also a couple of larger bowl forms that stand out from the rest of the group, both of which occur as single examples (Figs 25-26). These do not merge into the sequence in the same way as the smaller forms and are more likely to be intrusive pieces rather than early examples of later styles. The single tiny heel bowl (Fig 24) is an unusual miniature form rather than an earlier piece. Miniature pipes were never very common but tend to be finely manufactured and finished when they are found. An example of c1670-90 attributed to the Oxford maker Thomas Reeve has been recovered from excavations at the Ashmolean Museum (Higgins 2010). That example was also nicely finished and burnished, showing that these were good quality (expensive) products, rather than being cheap 'novelties'.

These oddities aside, the bulk of the pipes from the earlier deposits would otherwise have been dated to a decade or two earlier than the coin evidence suggests, particularly given the small size of several of the spur types. The close dating afforded by the by the coins shows that these slightly smaller forms continued in use during the 1640s and this must be taken into account when assessing the date of future assemblages from the Oxford region. These well-dated groups are also large enough for the typical characteristics of each period to be seen from the pipes that they contain, details of which are set out in Table 1. This table also includes details of the later overlying group

(context 209) so as to allow direct comparison between the two groups.

The most obvious difference is the complete lack of any mould type overlap between the earlier (Figs 3-26) and later (Figs 32-44) groups. There are more than 20 bowl forms represented in the earlier group, several of which occur in all three of the earlier contexts. In contrast, none of these types is exactly the same as any of the 13 bowl forms illustrated from the later group. There are two instances where very similar forms occur in the two groups (Figs 15 and 37; Figs 25 and 43), but the mould types are not exact matches. This shows that the moulds must have had relatively short lives, so that there was a complete turnover between the two groups, which are only a decade apart. Such a rapid turnover explains why pipes provide such sensitive dating indicators and makes it important to understand the subtle differences that distinguish those produced in one decade from another.

The 1640s group from this site can be divided into three broad styles; those with spurs, those with tailed heels and those with round heels. There are five types of spur pipe present (Figs 3-7), which are represented by eight individual examples (just under 12% of the 68 in total). These cover a range of sizes with the smaller ones being equivalent to c1610-40 forms and largest two (Figs 6 and 7) being as big as those found in the 1650s deposit. This shows that no one bowl can be dated precisely to a decade in isolation but rather that it is the interaction of a group of bowls and their attributes as a whole that can be used to narrow the date range. Two of these spur bowls are burnished (25%), a higher proportion than found amongst the remaining heel types where just 4 of the 60 heel bowls (about 7%) were burnished - and these were all 'special' examples (see below). This supports the suggestion (Higgins 2017b) that spur pipes were generally better quality products and so are likely to have been more prestigious/expensive. Two of the spur forms, including one of the finely burnished ones, are made of local clay containing fine sandy particles.

There are four or five varieties of the second pipe style, which have tailed heels (Figs 8-12; the last type being uncertain, since the heel is damaged). Overall there are 23 or 24 examples of this type, which represent some 35% of the 1640s bowl types. The size of the heel is quite variable, ranging from small (Fig 8) to large (Fig 11). These two extremes also stand out as being the most common forms represented with six examples of the type with the smallest heel and fourteen of the type with the largest. Both these patterns are made of local sandy clay, but those with a smaller heel seem to have a slightly coarser fabric that typically fires to a slightly greyish colour whereas those with a larger heel seem to have slightly smaller sandy inclusions and to be fired to a slightly buff colour. It is also noticeable that the smaller type is the only pattern from this site to have a consistently large stem bore of around 9/64". These slight differences in fabric, finished colour and bore size indicate that two different workshops were supplying these pipes.

Table :1 The bowl forms present in the c1640-50 (Figs 3-26) and c1650-60 (Figs 32-44) groups by context (209-286), showing their attributes where these could be recorded. These are: the number made of a visibly sandy fabric under a 10x lens (S Fab); their bore size (6/64" to 9/64"); the amount of rim milling, to the nearest quarter (M0 = no milling to M4 = fully (four quarters) milled); any maker's mark and the number of burnished examples (Bur). Sub-totals are given for the two groups with a grand total for all the c1640-60 pipes on the bottom line.

| Fig | 209 | 224 | 285 | 286 | Tot | S Fab | 6/64 | 7/64 | 8/64 | 9/64 | M0 | M1 | M2 | M3 | M4 | Mark | Bur |
|------------|-----------|-----------|-----------|-----------|------------|--------------|----------|-----------|-----------|-----------|----------|----------|----------|-----------|-----------|--------------|-----------|
| 3 | | | | 1 | 1 | | | | 1 | | | | 1 | | | | 1 |
| 4 | | | 1 | 1 | 2 | 1 | | 1 | 1 | | | | | | 2 | | 1 |
| 5 | | 1 | 1 | 1 | 3 | 3 | | | 3 | | | | | | 1 | | |
| 6 | | 1 | | | 1 | | | 1 | | | | | | | 1 | | |
| 7 | | 1 | | | 1 | | | | | 1 | | | | | 1 | | |
| 8 | | 2 | 1 | 3 | 6 | 6 | | | 1 | 5 | | | | 1 | 5 | | |
| 9 | | | | 1 | 1 | | | 1 | | | | | | | 1 | | |
| 10 | | 1 | 1 | | 2 | 1 | | | 1 | | | | | 1 | 1 | | |
| 11 | | 6 | 2 | 6 | 14 | 13 | | | 12 | 2 | | | | | 12 | | |
| 12 | | 1 | | | 1 | | | 1 | | | | | | | 1 | | |
| 13 | | | 1 | | 1 | | | 1 | | | | | | | 1 | | |
| 14 | | | 1 | 1 | 2 | 2 | | | 2 | | | | | | 2 | | |
| 15 | | 1 | | | 1 | | | 1 | | | | | | | 1 | | |
| 16 | | | 1 | | 1 | | | | 1 | | | | | | 1 | | |
| 17 | | 1 | | | 1 | | | | 1 | | | | | | 1 | BCS x 1 | 1 |
| 18 | | | 1 | | 1 | | | 1 | | | | | | | | ?? X 1 | 1 |
| 19 | | 4 | 4 | 7 | 15 | 2 or 3? | 1 | 14 | | | | | | 3 | 11 | MH x 1 | |
| 20 | | 2 | 2 | 6 | 10 | 1 or 2? | | 8 | 1 | | | | | 5 | 4 | | |
| 22 | | | | 1 | 1 | | | | 1 | | | | | 1 | | | |
| 24 | | | 1 | | 1 | | | 1 | | | | | | | 1 | | 1 |
| 25 | | 1 | | | 1 | | | 1 | | | | | | | 1 | | |
| 26 | | | 1 | | 1 | 1 | | 1 | | | | | | | | | 1 |
| Sub | 0 | 22 | 18 | 28 | 68 | 30-32 | 1 | 32 | 25 | 8 | 0 | 0 | 1 | 11 | 48 | 3 | 6 |
| 32 | 1 | | | | 1 | | | | 1 | | | | | | 1 | | |
| 33 | 1 | | | | 1 | | | | 1 | | | | 1 | | | | |
| 34 | 2 | | | | 2 | | | | 2 | | | | | | 2 | | 2 |
| 35 | 3 | | | | 3 | | | 1 | 2 | | | | | | 2 | IT x 1 | 3 |
| 36 | 1 | | | | 1 | 1 | | | 1 | | 1 | | | | | | |
| 37 | 10 | | | | 10 | | | 2 | 7 | 1 | | | | 3 | 7 | | |
| 38 | 1 | | | | 1 | | | 1 | | | | | | | 1 | | |
| 39 | 1 | | | | 1 | 1 | | 1 | | | 1 | | | | | | |
| 40 | 1 | | | | 1 | 1 | | | 1 | | | | | | 1 | | |
| 41 | 21 | | | | 21 | 1? | | 9 | 9 | | | | 1 | | 19 | | |
| 42 | 5 | | | | 5 | | | 1 | 3 | | | | | | 5 | | |
| 43 | 5 | | | | 5 | | | 1 | 3 | 1 | | | | | 4 | | |
| 44 | 1 | | | | 1 | | | | 1 | | | | | | | Gauntlet x 1 | 1 |
| Sub | 53 | 0 | 0 | 0 | 53 | 2-3 | 0 | 16 | 31 | 2 | 2 | 0 | 2 | 3 | 42 | 2 | 6 |
| TOT | 53 | 22 | 18 | 28 | 121 | 32-35 | 1 | 48 | 56 | 10 | 2 | 0 | 3 | 14 | 90 | 5 | 12 |

The presence of so many pipes with tailed heels is interesting since, amongst the 1630-45 group from the Queen's College (Higgins 2017b), the only pipes with tailed heels were West Country imports (nearly 12% of that group as a whole). Similarly, the only example with a tailed heel in the later group from this site is also a West Country import (Fig 44) and there are not any tailed forms at all from the later group at the Queen's College. Perhaps West Country imports were less available in Oxford during the turmoil of the Civil War, and local pipemakers manufactured these types to replace them during the 1640s. Even if this is the case, it does not explain why this style was so popular at St John's and yet barely represented at the Queen's College site in a broadly contemporary group. Perhaps the marked preference for tailed types at St John's (several different patterns representing more than a third of the total pipes in use and produced by at least two different manufacturers) indicates some sort

corporate purchasing of supplies for the college, with a preference for this particular style of pipe.

The final style of pipe is characterised by a round heel, of which there are around a dozen different types (Figs 13-26), represented by 37 individual bowls that could be classified (53% of this group as a whole). Two of these may be intrusive (Figs 25-26) and two or three of them may represent the same mould that has been altered during the course of its life (Figs 19, 20 and 22; see below). The remaining types are mainly represented by single examples, most of which are not made of sandy fabrics and one of two of which are probably imports to the city, i.e., two of the examples with stamped marks on them. One of these has just part of a small foliage or fleur-de-lys motif below the initials and a finely beaded border (Fig 18), a style that is fairly common amongst London makers at the period. The other piece is almost certainly from London and has the three letter mark S above BC on it (Fig 17). This mark is found nationally but with a concentration of examples from London (see below). Both of these stamped examples are also burnished, which also marks them out as being special within the group. The only other burnished pieces are the miniature bowl (Fig 24) and the probably intrusive heel (Fig 26). If this is discounted, the only remaining burnished heel bowls at this period are either imported pieces or the special miniature form.

In contrast to the 'one off' bowl forms and imported/burnished pipes, the majority of round heel forms are likely to have come from a single workshop. The most numerous type, with 15 examples, is shown in Figure 19, one example of which is stamped with an MH maker's mark. This can be attributed to the Oxford pipemaker Miles Higgess, who died in 1643 but the mark may well have continued in use until 1649 when his widow's new husband took his freedom (see below). The mould type has a distinctive profile and can be identified by a clear horizontal flaw on the left hand side of the heel, near the stem/heel junction. There are 14 other examples of this mould type from contexts 224, 285 and 286, showing that Higgess only marked a small proportion of his products. What appears to be the same mould type was also recovered from the Ashmolean excavations, where one example was found stamped with this same die type and another was found without (Higgins 2010). This mould type is also very similar to the bowl forms shown in Figures 20 and 22, which have a similar flaw on the left hand side of the heel. These examples also seem to have additional flaws on the right hand side, perhaps suggesting that it is the same mould that has been modified. The style and finish of these pipes all match and it seems likely that they all come from Higgess' workshop making them by far the most common type in this group, with a total of 26 examples (38% of the early group as a whole).

The pipes attributed to Higgess are generally well fired and with a hard fabric, which is usually very fine and without any sign of sandy inclusions. This may indicate that Higgess was able to maintain supplies of imported clay, or already had sufficient stock, to continue production throughout the Civil War sieges. The pipes from his workshop, however, are perfectly competent but not of the highest quality. They often exhibit heavy handed finishing and the bowl illustrated in Figure 22 has clear surface folds or cracks in the bowl surface from poorly prepared clay. Likewise, nine of the eleven bowls with only three-quarters milled rims from the 1640s group are ones that are attributed to his workshop. His pipes could best be described as 'run of the mill' although this may be in part a result of Higgess' death in 1643, leaving his widow to run the workshop with John Taylor, who had not then completed his apprenticeship. The stamped example (Fig 19) is neatly enough finished but not burnished like the other marked pipes from this context, or another example with the same stamp on it from context 360 (Fig 27). There is no obvious reason why the single pipe from the early group should have been marked, but it fits with a broader pattern of the seventeenth-century Oxford makers only marking a small proportion of their products.

One of the other bowls attributed to Higgess' workshop also has 'barley twist' decoration on the stem (Fig 22). This decoration was easily formed by the pipemaker pinching the still soft clay in alternate directions before it was completely dry. Two joining stems from the same context (Fig 21) may well be from the same pipe and show that the decoration extended along most of the stem from the bowl but that the last section towards the tip was left cylindrical. A fragment from another pipe with a barley twist stem was found in context 285 (Fig 23) and other examples have been found in the later 1650s deposit (Figs 28-30) as well as the later group from Queen's College, which probably dates

from the 1660s. This shows that pipes with barley twist stems formed a small but consistent part of production in Oxford throughout this period (c1640-70).

The final fragment to mention is a small rim sherd from context 286, which comes from the front of a bowl (not illustrated). This has a strongly rounded and bulbous form making it clear that it comes from a distinctive West Country style pipe but it was not included in the discussion above because the heel type is unknown. This piece, however, is very finely burnished and comparable in quality to the outstanding Gauntlett pipe from the 1650-60 deposit (see below). The rim is interesting in that there is a bevelled edge inside, suggesting that it has been bottered (shaped and smoothed with a special tool), but the top edge itself is very neatly and cleanly squared off with a knife cut. The milling comprises a deep band of very thin and finely cut lines and it is clear that the whole bowl would have been a very beautifully finished and expensive product. This pipe would have been imported from somewhere in the east Somerset / Wiltshire / west Hampshire area.

The 1650-1660 deposit

Context 209 was one of the upper fills of quarry pit 225 and produced by far the largest group of pipes from the site, comprising 435 pieces made up of 75 bowl, 337 stem and 23 mouthpiece fragments. This is a large and very chronologically uniform looking group of pipes, despite the fact that many of the stems have been broken into quite small fragments, suggesting a fair degree of movement or trampling. The stems are all consistent with a seventeenth-century date and all the bowl forms are broadly of c1650-70 types. This date is supported by a single IT stem stamp, which can be attributed to the Oxford pipemaker John Taylor who took his freedom in 1649 and died in 1684 (Price 2007). The context also produced four rose farthings issued between 1625 and 1644, which would still have been in common circulation during this period.

The dating of this deposit can be further refined by comparison with other groups from Oxford, particularly those from the Provost's Garden of the Queen's College, which have recently been studied in detail (Higgins 2017b). Pit 1085 from that site included a large group of pipes that was also dated to c1650-70 and there are many shared characteristics between these two groups, including the presence of identical looking pipes made by John Taylor. Context 209, however, generally exhibits very slightly smaller heel diameters and overall bowl sizes than those from the Queen's, in addition to which the average stem bore sizes for the bowls from this group are also slightly larger (16 examples of 7/64", 31 examples of 8/64" and two examples of 9/64", as opposed to 1 example of 6/64", 23 examples of 7/64" and 12 examples of 8/64" from Pit 1085). All of these indicators suggest that the finds from context 209 are very slightly earlier in date than those from the Queen's. For this reason, the suggested date for this group has been narrowed to c1650-60, while the Queen's group should now be placed slightly later within 1650-70 range, with the emphasis being on the 1660s. Context 209 can, therefore, be seen as a Commonwealth deposit, with the pipes having been discarded in the decade immediately following the Civil War.

Despite the homogenous looking nature of this deposit, there were very few joining fragments within it. The fragments were all sorted and laid out, but very low levels of joins were found amongst the key groups that indicate whether complete pipes are potentially recoverable (e.g., bowl to bowl joins; stem junction to bowl joins; burnished fragment joins; mouthpiece to narrow stem joins). There were nine stems with partial heels attached but only one of these joined with a bowl fragment, and that was a fresh break. It was possible to join the IT stamped stem with its bowl but it was concluded that exhaustive searching for joins within this group was unlikely to yield worthwhile results. The large number of stems opening into bowls that are not present in the group, or damaged heels without joining bowl fragments, shows that this is only a partial sample from what would originally have been a much larger assemblage when the pipes were originally in use. Nevertheless, this is still a large assemblage for its period and one of the best of its date to have been recovered from Oxford.

There are the remains of eight different spur bowls from this context, seven of which were

complete enough to be classified to form (Table 1). These comprise just over 13% of all the identifiable forms from this context. Five of the identifiable examples are burnished (71%), which contrasts markedly with the single burnished heel type from this context, which represents just 2% of that style. Furthermore, the burnished heel bowl is an import to Oxford so that the only local bowl forms of this period that are burnished are the spur types. This supports the evidence from the earlier group (above), which showed that spur pipes represented a more finely finished (better quality) style of pipe.

There are four different styles of spur bowl represented (Figs 32-36), none of which are made of a sandy fabric. There are duplicates for two of the forms (Figs 34 and 35), which appear to be most representative of the 1650s style being produced in Oxford. One of these joins to a stem with an IT stamp for John Taylor, who took his freedom in 1649 (Fig 36). The burnished spur pipes are very good quality products and compare well imported pipes represented from this site, which also tend to be above average in quality.

There is just a single pipe with a tailed heel from context 209 (2%), and that is an imported piece with a distinctive West County bowl form (Fig 44). This is in stark contrast with the earlier deposits (above), where several local bowl forms with tailed heels were represented and they made up 35% of the assemblage as a whole. In this context it is the bowls with round heels dominate the assemblage; 59 fragments, representing at least 50 different examples, with 45 complete enough to be attributed to a specific form (85% of the identifiable forms). Unlike the spur forms, these are generally of average quality and all but one is unburnished (Table 1). The one burnished example is an exceptionally high quality piece with a gauntlet stamp on the heel (Fig 44). This was almost certainly made by the Gauntlett family of Amesbury and would have been a very expensive product, imported into Oxford. It is of comparable quality to the imported West Country bowl fragment in the c1640-50 deposits (see above).

In terms of size, there is one particularly small heel bowl that comes from a low quality mould and is very poorly finished (Fig 36). At the other extreme, there is a large, chunky bowl (Fig 40) that is one of only two or three pieces in this deposit made from local sandy clay (see below). Taken out of context and placed side-by-side, these two bowls would look to come from completely different periods and exhibit different characteristics. Their occurrence together highlights the range and variability that can be present at any given period, and demonstrates the importance of larger groups in establishing what is 'normal'. The overall range of heel forms present in this group is shown in Figures 36-44, although it is important to stress that the majority of the pipes in this group are 'mid-range' in size and of very uniform appearance (Figs 37 and 41-43), even though it is clear that lots of individual mould types are represented. These 'mid-range' pipes are typically well-made with neat forms and well finished rims, but not marked or burnished.

Most of the pipes recovered from context 209 are made from a fine fabric with no distinctive characteristics visible under a 10x lens. The only exceptions are two or three heel bowls that have extremely fine sandy inclusions in the fabric, presumably from the local Shotover Hill clays that are known to have been used by the Oxford pipemakers during the seventeenth century (Higgins 2017b). Plot (1667, 65-66) notes that this clay was exclusively used to make pipes in Oxford during the Civil War sieges but that it was mixed with Northamptonshire clay thereafter. Sandy fabrics were only evident in just under 50% of the pipes from the 1640s deposit while here they only represent around 5%. No sandy fabrics at all were noted in the Queen's College assemblage of c1650-70 (Higgins 2017b) and so a clear picture is emerging with sandy fabrics being common during the 1640s but almost absent during the 1650s and 1660s.

Three stem fragments from context 209 have pinched 'barley twist' decoration, formed by the pipemaker pinching the stem in alternate directions while the clay was still soft. On one of these pieces there is about 37mm of plain stem behind the bowl junction before the barley twist decoration starts, showing that the whole stem was not always decorated (Fig 29) – although the pinching on this fragment is not very firmly applied and there is some doubt as to whether this is part of an intentional scheme of decoration. The other two pieces have been firmly pinched and

are clearly intentionally decorated (Figs 28 and 30).

Another fragment of stem has a small hole that had been carefully drilled into after the pipe has been fired so that the stem bore is intersected, perhaps to make the pipe into a whistle (Fig 31).

When stems with perforations are found, there is usually a wide, dished hollow that has been scraped into one side of the stem until the bore is exposed. In this instance a sharp knife cut that has been scored across the stem, perhaps to mark the desired point, after which a much narrower hole has been drilled into the stem, presumably by twisting a sharp but very fine point against it. The top of the opening created is only about 3mm across at the surface, tapering to about 1.5mm where it intersects the bore. This is by far the smallest hole of this type that the author has seen.

This context shows that round heeled bowls were by far the most common type of pipe in use at this period, and these were almost all locally produced. These were the 'everyday' pipes of the 1650s. In contrast, when a better quality pipe was required, this would either have been a locally produced spur pipe, probably with a burnished surface, or a pipe imported from elsewhere, such as the very high quality gauntlet pipe. There is no evidence for locally produced types with tailed heels in this context and a marked change in the clay being used, with the sandy fabric having almost entirely been replaced by finer clays.

Marked pipes

A total of ten pipes with stamped makers' marks were recovered from the excavations, some of which are of previously unrecorded types. They range from a rare mark relating to one of the earliest pipemakers nationally to an exceptionally fine gauntlet mark that can now be used to identify some of the most expensive pipes ever produced in this country. The local makers only stamped a small proportion of their products but several varieties are represented and it has been possible to find new information about them, particularly the previously little known Benjamin Abbott. The marks are listed and described in alphabetical order (by surname initial) below: -

BEN/ABB/OTT One example of a rectangular relief stamp across the stem reading BEN/ABB/OTT was recovered from context 1000 (Fig 48). The stem has a bore of just over 5/64" and is made of a local fabric with fine sandy inclusions. The stamp has been placed about 48mm from the bowl junction (the bowl itself is missing) and an average quality burnish has been applied to the stem, but avoiding the mark, which shows that the pipe was burnished after the stamp had been impressed. A similar mark reading BENJ/ABB/OTT, but with a shaped border and no dividing lines between the text, has been illustrated from the St Ebbe's excavations in Oxford (Oswald 1984, Fig 54.25b), which has the mark about 60mm from the junction of a spur bowl. Oswald lists five examples of pipes made by this maker from the St Ebbe's excavations and notes that they occur on well-finished, highly polished pipes (Oswald 1980, 259). One of these marks has been recorded for the national stamp catalogue (Cast 20.5), which shows that it is a rectangular example like the St John's College example, rather than a shaped one, as illustrated in the St Ebbe's report. Oswald (1991) also notes another example of an Abbott mark from excavations in Oxford and one in the Swinford Museum at Filkins, Oxfordshire.

Despite a number of examples having been recorded from in and around Oxford, very little is known about Benjamin Abbott himself. Oswald (1991, 259) notes that he is recorded at Ramsden, about 14 miles WNW of Oxford, where he took an apprentice in 1758, and that the marked pipes occur in deposits with closing dates of c1780. Some basic research to try and refine the working period for this maker, and thus the dating for these marked pipes, has been carried out using original documents available online via the Ancestry and Find My Past websites (primarily wills and parish register entries). While it has not been possible to identify either his place or date of birth or death, the members of his extended family provide a useful framework for his likely career.

Benjamin Abbott is first recorded on 8 October 1746 when he and Mary Dixon, both of Ramsden, were married at Swinbrook, a village about 5 miles away. No occupation is given for Benjamin at the time, but it is assumed that he was already a pipemaker and he certainly was when

Mary drew up her will on 9 November 1756 (proved 26 February 1757). Mary was the daughter of Henry Lardner, baptised on 6 November 1695 at Shipton under Wychwood, and had married Thomas Dixon there on 1 June 1717, when they were both described as of Ramsden. Mary appears to have been a wealthy widow, aged around 51, when she married Benjamin and a marriage settlement was drawn up on 6 September 1746 prior to their wedding. Mary clearly retained control of her assets during the marriage and so was able to leave a substantial estate when she died. A summary of her will is as follows: -

A cottage/tenement in Ramsden (late in the possession of Edward Fletcher and now John Wire) was left to husband Benjamin Abbott for his life, and after that to Gabriel Brown, son of the late William Brown of Stonesfield, Yeoman, and Mary, his wife.

Five pieces of land in the common fields of Ramsden, now in the occupation of William Collins, were left to her husband and, after his decease, to her niece Elizabeth Brown, daughter of the aforesaid William Brown.

A cottage and garden on the heath at Ramsden, now in the possession of Widow Reeves, was left to John Wire and his wife Mary, who was her niece.

To her niece Elizabeth Brown, £60.

To her niece Mary Wire, £5.

To kinsman Thomas Lardner of Ducklington, yeoman, £10.

To kinsman John Dix, son of John Dix of the parish of St Thomas the Apostle, Oxford, tobacco pipe maker, £5.

To kinsman Henry Langford of Finstock, narrow weaver, £5 to be given to Mary Brown (wife of Gabriel), according to her needs and for her exclusive use.

To nieces Elizabeth Brown and Mary Wire (if they outlive her) all her wearing apparel and four gold rings, to be equally divided between them.

To niece Elizabeth Brown, one pair of common stools, one round table, one iron pottage pot, two pewter dishes, three pewter plates and her oak bedstead.

The remainder of her estate to husband Benjamin Abbott, who is also named as her executor.

Robert Spendlove of Charlbury, baker, and Henry Langford to oversee the will, for which they are to receive one guinea each.

Mary also mentions properties in Finstock on which she has monies received by mortgage and of which she is tenant.

The will not only shows that Mary maintained a considerable degree of financial independence from her husband, but provides likely framework for Benjamin's life, since they are likely to have been of a similar age (Mary was baptised in 1695 and died in late 1756 or early 1757). Her will also raises interesting questions about possible connections within the pipemaking trade, which often ran in families. Oswald, for example, lists a Thomas Reeve pipemaking in Oxford from 1667-1700 (1991, 262), and Mary held a property in Ramsden occupied by a 'Widow Reeves'. More specifically, she left

money to the Oxford pipemaker John Dix, son of John Dix, who is not previously recorded by Oswald. Dix is recorded as a 'kinsman' and it seems likely that he was her nephew. This is because the maiden name of her niece Mary Wire was Dix (John Wiars of Charlbury married Mary Dix of Ramsden at Shipton under Wychwood on 1 December 1747) and Elizabeth Lardner (presumably Mary's sister) had married John Dix of Finstock at Shipton under Wychwood on 27 December 1725. John and Elizabeth Dix would, therefore, have been Mary Abbott's brother-in-law and sister, making their daughter Mary her niece. If John and Elizabeth Dix had also had a son John, this would fit the requirements of the pipemaker named in the will, i.e., a kinsman called John Dix, who was also the son of a John Dix. The earliest known references to the Lardner and Abbott families both come from Ramsden and so it is likely that they would have known each other and possible that they were both connected in some way with the pipemaking trade.

Whatever Benjamin's origins, his marriage to Mary in 1746, a widow of around 50, meant that he must have already been well-established by that date and he certainly became a relatively prosperous man, since she clearly had money of her own (another of her sisters, Martha, had married William Brown, who is described as a yeoman in her will). Mary died in late 1756 or early 1757 and Benjamin soon remarried, this time to Elizabeth Weston of Ramsden, a spinster (they married 25 July 1757 at Shipton under Wychwood). Benjamin was literate and able to sign the register and, the following year, he paid £7 to take William Hopkins as an apprentice pipemaker at Ramsden, suggesting that he was still young enough to take on an apprentice for seven years (which would have been until around 1765). No record of Benjamin has been found after the 1758 apprenticeship, making it hard to know how long he carried on pipemaking for. The bowl of one of his pipes illustrated by Oswald (1984, Fig 54.25b) is of a form closely matched by those from the Broseley area, which have been dated to c1740-70 (Higgins 1987, 257, Type 7b). This range fits well with what is known of Benjamin's life and suggests that his distinctive stem stamps can also be dated to a similar period. It is also worth noting that the style of the mark from these excavations (a full name rectangular mark with dividing bars) is also typical of the Broseley area makers, suggesting that he was competing with the good quality, long stemmed pipes produced at that centre (Higgins 1987).

In summary, Benjamin Abbott was probably born sometime around 1700 and he can now be identified as a relatively wealthy pipemaker from Ramsden, where he was using local Oxfordshire clay with a fine sandy fabric to make good quality burnished spur pipes. These copied Broseley styles in both bowl form and the mark type and were able to hold their place in the Oxford market, some 14 miles away from his workshop. He used at least two different types of stem stamp to mark his products, and these stamps can now be dated to around 1740-70, even when they occur separately from their bowls. Benjamin had family links with other pipemakers working in Oxford and took at least one apprentice to pass on his trade. Although beyond the confines of this study, it is also possible that he had other family who continued the business into the nineteenth century, since a Thomas Abbotts, baptised in Banbury on 30 June 1801, is recorded working as a grocer and pipemaker there during the 1830s and 1840s.

ED/BEAS/TEN A fairly thick stem fragment of c1690-30 with an incuse ED/BEAS/TEN stem stamp (probably Die 2124) was recovered from context 1000 (Fig 46). The stamp has large letters and has been poorly impressed 22mm from the bowl junction. The stem has a good burnish and a stem bore of 6/64". This maker is well known from his marks but has proved difficult to pin down in documentary sources. Cannon (1991, 22) notes that the largest concentration of his marks has been found in the Newbury area, about 25 miles south of Oxford, suggesting that Beasten either worked there or at the neighbouring (and regionally important) pipemaking centre of East Woodhay in Hampshire. Cannon goes on to note examples of Beasten marks from Brinkworth, Cirencester, Cricklade, East Woodhay, Fulham, Hannington Wick, Highworth, Littlecote, Marlborough, Newbury, Old Swindon, Overton, Salisbury, Stroud, Swindon and Winchester, which not only shows how prolific this maker was but also the market area that he was able to achieve. Examples of this mark have also been recorded from Magdalen Street, Rewley Abbey and the Ashmolean Museum excavations (five

example) in Oxford (Cannon 2000; Higgins 2007a, Fig 22.19; Higgins 2010, Figs 16-17); at Abingdon (Higgins 2007b, Fig 24.66) and at Facombe Netherton, Hampshire (Oswald 1991).

TB The larger part of a very early bowl type stamped with a previously unrecorded version of a TB mark was recovered from context 319 (Fig 1). The bowl form dates from c1580-1610 and is finely burnished with the incuse mark comprising simple unbordered letters. The style of the pipe and mark both suggest a London origin but the earliest recorded makers there with these initials are Thomas Blackburne, recorded at Shadwell, Stepney in 1633, and Thomas Barge, recorded at Limehouse, Stepney, in 1635 (Oswald 1975, 132), both of whom are possibly a little late for this piece. Another very early TB mark with incuse initials has been found at Queenhithe in London on a pipe dating from c1610-30 (Le Cheminant 1981, Fig 1.7). A range of distinctive TB stamps with the letters superimposed on one another, like a merchant's mark, occur on pipes of c1600-20. These have been recorded from London, Cambridge, Grantchester, Doncaster and Stamford (Oswald 1991), while various other arrangements of the same initials occur on pipes of c1610-40, including examples from London and Barnard Castle (Oswald 1991) as well as another in the author's possession from Brough in Cumbria. These are also thought to originate from London and these various marks appear to represent one or more early and prolific workshops operating as pipemaking was first becoming established in this country. The new find from these excavations pushes back the earliest evidence for the first 'TB maker' and adds to the known distribution of his products.

GAUNTLET MARK Two examples of gauntlet marks were found during the excavations, both of which occur on West Country style heel fragments with their bowls missing. One of these is of typical form and quality and was found in context 1000, a soakaway cut, and can only be broadly dated to c1650-90 (Fig 45). The other is of much finer quality and was recovered from context 209, a quarry pit fill dating from c1650-60 (Fig 44). The bowl itself is missing but the tailed (tear-drop) shaped heel cut flush with the stem survives with an impressed gauntlet symbol on it, the thumb facing to the right. The pipe itself is exceptionally well made with a relatively thin stem (when compared with the other contemporary pipes in the group) and quite a marked stem taper, showing that this would not have been a particularly long pipe. The stem is very straight with a neat circular cross-section and the whole surface has been and very finely burnished giving it an even sheen and silky feel. There is no doubt that this is an extremely well-produced and finished pipe that would have been a 'top of the range' product, and which would have cost significantly more than the other pipes from this context. The same context also produced a very finely finished stem fragment that is probably from the same pipe and there is a bowl fragment of the same quality from one of the slightly earlier deposits (context 286).

There can be little doubt that this second marked example is a product of the Gauntlet(t) family of Amesbury in Wiltshire, who were famous during the seventeenth century for their production of high quality pipes and who used the gauntlet mark as a rebus for their surname. The origins and history of this important pipemaking family remain obscure and fresh research into them is long overdue. What is clear, however, is that they must have been amongst the earliest seventeenth-century pipemakers and that they soon established a reputation for quality products. Atkinson and Oswald (1969, Fig 8.57) illustrate a tiny pipe with a gauntlet mark and West Country style bowl that they date to c1600 or earlier, although the author wonders whether this is actually a miniature pipe dating from slightly later in the seventeenth century. That said, there are gauntlet marked pipes found in London dating from around 1600 onwards in the National Pipe Archive at the University of Liverpool (Elkins Collection) and a large group, including high quality examples, from the Jewel Tower at Westminster dating from c1610 onwards. There is also a group of pipes from Exeter that date from c1610-30, many of which are marked with a gauntlet symbol (Oswald 1980, 330-331). Oswald considered these to be stock from a public house or shop, but the large number of examples (87), and the fact that most are unsmoked, suggests that they are more likely to be production waste.

The origin for most of the very early examples is uncertain but, by at least 1640, the family must have established themselves in Amesbury, about 8 miles north of Salisbury in Wiltshire, and

acquired a reputation for making high quality pipes, since the first Marquis of Hertford purchased pipes from them in 1641 or 1642 (Walker 1977, 258). Similarly, the Duke of Bedford purchased pipes in 1651 and 1652 from Hugh Gauntlett at the sign of the Swan in Amesbury (Walker 1977, 258). High status patronage for these pipes is also evidenced by their recovery from locations such as the Jewel Tower in Westminster or the palace sites of Oatlands and Nonsuch in Surrey (Higgins 1981). Walker has also looked at the cost of the gauntlet pipes and found that they were selling for up to 1s 6½d per dozen during the 1640s and 1650s, when ordinary pipes were selling at just 1d to 2d per dozen at the time – i.e., the gauntlet pipes were selling for almost twenty times as much as the cheapest alternatives (Walker 1977, 419). This is an extraordinary difference in cost and shows that the Amesbury pipes must have been significantly superior to other pipes, as is demonstrated by the excavated fragment from context 209. The contemporary esteem in which these pipes were held is further demonstrated by Fuller's description of them in his account of Wiltshire pipes (Fuller 1662, 143-4):

“The best for shape and colour (as curiously sized) are made at *Amesbury* in this County. They may be called Chimneys portable in pockets, the one end being the *Harth*, the other the *Tunnell* thereof. Indeed at the first bringing over of Tobacco, Pipes were made of silver and other metalls; which, though free from breaking, were found inconvenient, as soon fouled, and hardly clensed.

These Clay-pipes are burnt in a furnace, for some *fifteen* hours, on the self-same token, that if taken out half an hour before that time, they are found little altered from the condition wherein they were when first put in. It seems all that time the fire is a working it self to the height, and doth its work very soon, when attain'd to perfection. *Gauntlet-pipes*, which have that mark on their *heel*, are the best; and hereon a Story doth depend.

One of that trade observing such Pipes most salable, set the *Gauntlet* on those of his own making, though inferior in goodness to the other. Now the workman, who first gave the *Gauntlet*, sued the other upon the Statute, which makes it penal for any to set anothers Mark on any Merchantable Commodities. The Defendant being likely to be cast, (as whose Counsell could plead little in his behalf,) craved leave to speak a word for himself, which was granted. He denied that he ever set another man's mark: for the Thumb of his *Gauntlet* stands one way, mine another, and the same hand given *dexter* or *sinister* in Heraldry, is a sufficient difference. Hereby he escaped, though surely such, who bought his Pipes, never took notice of that Criticisme, or consulted which way the Thumb of his *Gauntlet* respected.”

This account is exactly contemporary with the excavated fragment although Walker (1977, 258) considers the story apocryphal based on Atkinson's identification of at least 22 different gauntlet dies used to mark pipes, both left and right handed varieties of which he considered to occur on genuine Gauntlett products. These marks, however, would be worth reassessing given the outstanding finish of the example from context 209 to make sure that only those of the very best quality are considered 'genuine'. Stevens (1882, Fig 25) illustrates five different gauntlet marks from Salisbury, only one of which is 'right handed' like the excavated example, although the sample is too small to be sure how representative this is of those types found locally.

The Gauntlett family also seem to have worked as pipemakers in other centres near Salisbury, for example the John Gauntlett recorded at Wilton, about 3 miles west of Salisbury, from 1653-95 or the George Gauntlett at Marlborough in 1705 (Oswald 1975, 198). There also appears to have been a link with Netherhampton, which is only some 2.5 miles west of Salisbury and adjacent to Wilton. Oswald (1975, 198) records a William Gauntlett as a pipemaker in Amesbury from 1653-65 while Walker (1977, 258) records a William Gauntlett at Netherhampton in 1675, who held various properties and rights from the Earl of Hertford, including the Swan at Amesbury, where Hugh Gauntlett had previously been recorded as a pipemaker in the early 1650s. A Hugh Gauntlet was buried at Amesbury on 23 April 1680, perhaps the pipemaker (Wiltshire Burials Index on

findmypast.co.uk; accessed 9-1-18). The index also notes two other Gauntlet burials in Amesbury who could well have been other family members; John on 8 June 1630 (for whom an account, administration bond and inventory of 1631 also survives - not checked for evidence of pipemaking, but perhaps the 'founding father' of the family) and William on 27 May 1681, perhaps the individual recorded at Netherhampton in 1675.

Fuller's 1662 reference demonstrates that the gauntlet mark was already being copied by other makers by the middle of the seventeenth century and the archaeological evidence shows a wide range of different qualities, die types and associated bowl forms, which suggest that this was a very widespread practice. Quite apart from pipes that look like direct copies of the Amesbury gauntlet pipes, the same symbol was also adopted for other styles of mark, sometimes in association with different makers' initials, at production centres ranging from Exeter to London in the south right up to Shropshire, Cheshire and Staffordshire in the Midlands. It is hard to know now whether these marks were deliberately referencing the high quality pipes originally made by the Gauntlett family or simply adopting a popular heraldic motif of the period, in the same way that the fleur-de-lys or Tudor rose were used by other makers. Either way, actual examples, or direct copies of Gauntlett pipes have previously been found in Oxford, just over 50 miles from Amesbury, and there are quite a number from London, some 80 miles distant. This shows that Gauntlet pipes were being marketed over a much wider area than from most other regional production centres of the period.

There are no references to members of the Gauntlett family making pipes after 1705, nor does the heel stamp occur on pipes after this date. By this time, however, the term 'Gauntlet pipe' had come to take on a meaning of its own. The Bristol company of pipemakers regulated the stem lengths of pipes in 1710, at which time there were only six recognised styles of pipe that members could make, and one of these was for export only. The remaining five patterns had stems of between 11½" and 16" with one of the shortest of these (11½") being the 'Gauntlet Pipes' (Higgins 1997, 130). No Bristol pipes with gauntlet heel stamps of this date are known, and so this description must have applied primarily to the bowl form and stem length combination, with the bowls probably being of what are now termed 'West Country' styles. The 'gauntlet pipe' had, therefore, evolved from an early seventeenth-century form with a distinctive bowl shape that was probably being produced by a single family and with a specific heel stamp, to a generic term for a West Country style pipe with a relatively short stem by the early eighteenth century.

The two stamps found on these excavations date from the heyday of gauntlet pipe production and at a time when the finest examples being produced at Amesbury were selling for nearly twenty times that of common pipes. The exceptionally fine example from context 209 can be identified as one of these prestige products, most likely made by Hugh Gauntlett at the Swan in Amesbury, who is known to have been supplying the aristocracy with the very best quality pipes during the 1650s. As such, it provides an important reference point for the specific gauntlet die type (right-handed) that was being used to mark these special pipes. Detailed comparison and analysis of the die types and bowl forms of other gauntlet pipes is now required to try and establish which are genuine Gauntlett family products and which are simply contemporary copies, or outright forgeries.

MH Two bowls with identical heel stamps reading MH were recovered from the excavations, one on a small unburnished bowl with a stem bore of just under 8/64" from context 224 (Fig 19) and the other on a slightly larger bowl with a good burnish and a stem bore of 8/64" from context 360 (Fig 27). The circular stamp comprises the initials MH with a single rather crudely executed star above and below (Die 2125). There are some extremely fine sandy incisions in the clays from which these pipes are made, especially the smaller one, suggesting that it was probably obtained from the local Shotover Hill deposits. These pipes can be attributed to the Oxford pipemaker Miles Higgs. Details of this individual have been published by Price (2007) and the following biography is taken from his account.

Higgs probably worked in the Oxford parish of St. Mary Magdalen and he married Jane Berriman, the sister of a well-known Bristol pipemaker, on 29 January 1629/30 at St. Michaels',

Oxford. They baptised a son, John, in August 1630 and it is likely that they also had a daughter, Deborah, who went on to marry the Aylesbury pipemaker, George Weaver, which shows how widespread the connections between pipemakers were from the earliest days of the industry. Miles died and was buried at St. Mary Magdalen 1643, with the business presumably being carried on by his widow with the help of John Taylor, an apprentice that Miles appears to have taken on during the late 1630s. Widow Jane went on to marry John Taylor at some point before August 1649, when they baptised a son, Lawrence, at St. Mary Magdalen. John Taylor himself was made free as a pipemaker by order of Oxford Council on 31 July 1649 and so probably only started using his own mark after this date, an example of which has also been found on these excavations (see IT mark below). Although Miles Higges died in 1643, his widow is likely to have carried on using his MH mark until Taylor took his freedom and would have been in a position to trade in the city himself. Nothing is known of Miles Higges' early life, and it is possible that he started his pipemaking business during the 1620s. The first firm reference to him, however, dates from the 1630 marriage and so, in broad terms, pipes stamped MH can be dated to c1630-50. This particular die, however, occurs in the closely dated 1640s deposit (Fig 19) and on a bowl form that is also likely to date from c1640 or later date (Fig 27). In contrast, the Queen's College excavations produced two examples from a pit group of c1630-45 (Higgins 2017b), both of which are different die types with ligatured initials (Dies 339 and 1120). This hints at a chronological distinction between the ligatured marks that perhaps date from the 1630s, with the particular die type found on these excavations dating from the 1640s. If further work supports this suggestion, then these marks will provide important dating evidence to the nearest decade for any contexts within which they occur.

The workshop that Higges established appears to have been very successful, since his marks are the most numerous of any from Oxford, despite the fact that he only stamped a small proportion of his products (see above). His marks occur in at least four different varieties, including the type recovered from these excavations (Table 2). Only two other examples of this particular type are known, one from excavations at the Ashmolean Museum (Higgins 2010) and the other from excavations at 1-12 Magdalen Street in Oxford. This second example is probably the same but it is only described (not illustrated) by Cannon (2000), who says it just has a single star below the letters (perhaps the mark had been partially impressed). Cannon also notes that "several different MH marks are known to exist", citing 17 examples in the Ashmolean Museum (Department of Antiquities), but without saying exactly what forms these take.

Table 2: MH pipes of c1630-50 recorded from sites in Oxford

| Die | No | Findspot | Collection |
|--------------|-----------|--------------------------------------------------------------|-------------------------------------|
| 339 | 1 | The Queen's College, Provost's Garden, Oxford (context 1044) | Oxford Archaeology (OXQUPG 15) |
| 339 | 2 | The Queen's College, Provost's Garden, Oxford (context 1151) | Oxford Archaeology (OXQUPG 15) |
| 339 | 2 | Parks Road, Oxford (Labs W of School of Rural Economics) | Liverpool Museum |
| 339 | 9 | Parks Road, Oxford | Woodstock Museum |
| 340 | 1 | Parks Road, Oxford | Woodstock Museum |
| 1120 | 5 | The Queen's College, Provost's Garden, Oxford (context 1151) | Oxford Archaeology (OXQUPG 15) |
| 1120 | 2 | The Queen's College, Provost's Garden, Oxford (context 1155) | Oxford Archaeology (OXQUPG 15) |
| 1120 | 1 | Parks Road, Oxford | Woodstock Museum |
| 1120 | 1 | Parks Road, Oxford (Labs W of School of Rural Economics) | Liverpool Museum |
| 2125 | 1 | The Ashmolean Museum, Oxford (excavation) | Oxford Archaeology (OXASHE 2006.68) |
| 2125 | 1 | 1-12 Magdalen Street, Oxford | Cotswold Archaeology |
| 2125 | 2 | St John's College Library Extension | Oxford Archaeology (OXJL 16) |
| - | 17 | Not referenced (Cannon 2000) | Ashmolean Museum |
| Total | 45 | | |

BCS This is a distinctive and unusual three letter mark, with the letter S placed above the letters BC within a circular mark on the heel of a burnished pipe from the quarry pit fill of c1650-60 (Fig 17). The English convention for three letters arranged in this way is that the top letter represents the surname with those of a husband and wife beneath. Oswald (1991) notes this mark as dating from c1620-45 and suggests Belier Sacheverell (who signed the 1634 London pipemakers charter) and his wife as the possible makers, a suggestion repeated for an identical example of this mark excavated at St Ebbe's in Oxford (Oswald 1984, 253). No name for the wife is given and that it began with a 'C' may well have been an assumption. The online records available via Ancestry.co.uk and Findmypast.co.uk (accessed 11-1-18) give four references from London that most likely relate to this individual (given his unusual name), but most of these are transcripts only, which do not note whether any occupation is stated in the original registers. These are: -

- 2 February 1629: Bellezer Sacheverill married Ellin Watkins at St Michael Paternoster.
- 18 February 1659/60: Ann, wife of Belliazzer Sacheverill, was buried at St Bartholomew the Great in the City (scan of original register seen; no occupation listed).
- 25 July 1661: Bellezar Sachenerill and Margaret were married at St Bartholomew the Less.
- 1665: Beleazer Sachelrell was buried at St Bartholomew the Great (no exact date transcribed).

While these dates would fit well with the pipemaker recorded in 1634, and give a probable working life of c1629-1665 for him, none of the entries refer to a wife with a Christian name starting with a 'C' – even though three different wives are mentioned. It is still possible that the first wife died quite soon, allowing time for another before Ann, which also spans the period that the marked pipes date from. This is speculative, however, leaving the maker of these pipes uncertain, although Belliazzer Secheverill is still the only known London maker of the right date whose initials fit. He who was clearly prominent enough by 1634 to have signed the charter, which would also fit with the widespread distribution of these marks.

The BCS mark is well known from previous finds and seems to occur in several different die types, suggesting a well-established and productive workshop. These marks have an unusually wide distribution, with Oswald (1991) noting at least a dozen different examples from all over the country: Carlisle, Chester, Oakham Castle, the Rippon cards in Exeter Museum, Oxford and several from London. The example from Oxford is illustrated in the St Ebbe's report (Oswald 1984, Fig 51.3), the caption for which also mentions an example from Ripon College in Yorkshire. There is also an example recorded from Little Stonegate in York (White 2004, Fig 89.4) and a second example from Chester (CUS86 I context 131). The cluster of six to eight finds from London seems likely to indicate the origin of these pipes, which achieved a much greater national distribution than most of the other contemporary London products – indeed, it is one of the very few early examples of a truly national distribution pattern.

IT A stem stamp with the relief initials IT within a plain border was found in context 209. There are two small dots between the initials and a fleur-de-lys above and below (Die 1012). The mark occurs on a finely burnished spur bowl and is placed 20mm from the bowl junction. There is an identical example in the World Museum, Liverpool, which was found in Broad Street, Oxford, in 1915 and which is placed 22mm from the bowl on a similar spur form. This mark can be attributed to John Taylor of Oxford, a pipemaker whose life has been extensively documented by Price (2007; 2013), on whose work the following summary is based.

John Taylor was probably baptised in Oxford in 1622 and was apprenticed to the early Oxford pipemaker Miles Higges or Hickes, most likely at some point during the 1630s. Unfortunately Higges died in 1643 before Taylor had completed his apprenticeship, although it must have been nearly complete, since Taylor would have been about 21 at the time. Taylor was not held back by his master's untimely death, since he not only appears to have taken over Higges' business, but he also married his widow, Jane. Jane also happened to be the sister of Richard Berryman, a prominent and

successful Bristol pipemaker who probably originated from Oxford himself and so may have already known Taylor. With the marriage to Jane, John Taylor became Richard Berryman's brother-in-law, giving him an influential contact in the pipe making trade. They clearly had a good relationship since when Richard Berryman's widow Anne died in 1660, Taylor was one of the beneficiaries of the will. Jane had previously had at least two children with Miles Higges, one of whom went on to marry the Aylesbury pipe maker George Weaver, which shows how complex and extensive the connections between pipe making families could be.

Taylor finally took his freedom in 1649 and went on to become a prominent figure in Oxford. He was probably a councillor by 1663 and was certainly one by February 1676/7. Unfortunately, there appear to have been several individuals called John Taylor living in Oxford at this period, which makes identification of the individual who was a pipemaker rather problematic. One prominent and wealthy family of painters and poets named Taylor included several members named John, one of whom was mayor of Oxford in 1695/6 and again in 1708/9 (http://www.headington.org.uk/oxon/mayors/1603_1714/taylor_john_1695_1708.htm, accessed 10.1.11). This same website giving details of the mayor's family also notes that: -

Taylor's family moved to St Mary Magdalen parish . . . , probably to the house on the site of Balliol College mentioned below. In 1665 two people in that parish called John Taylor paid tax, one on six hearths and another on three. The former may have been Taylor's father, and the latter the tobacco-pipe maker of the same name who lived in the parish. Similarly in March 1667 one John Taylor in that parish paid 5/- poll tax for himself, his wife, and his three children, and the other 3/- for himself, his wife, and his child.

Price (2007) also concludes that the pipemaker John Taylor probably lived in the parish of St. Mary Magdalen, most likely in Magdalen Street. His wife Jane was buried at St. Mary Magdalen on 22 September 1670 and John himself was buried there on 29 June 1684. Taylor had certainly been successful as a pipemaker since he left three properties in the city and another in the county in his will.

The documentary evidence clearly shows that Taylor had good connections within the early pipe making trade and that he had a successful career in Oxford. The historical record shows that he was apprenticed as a pipemaker at some point prior to 1643 (and most likely during the 1630s); that he took over a well-established business during the 1640s; became a freeman in 1649 and served as a councillor during the 1660s and/or 1670s before his death in 1684. Despite Taylor having been identified as a prominent Oxford maker with a working life of some 40 years, very few examples of marked pipes that can be attributed to him are known. There is just one other known example of the IT mark, plus three examples of full name stem stamps reading IOHN/TAY/LER, which also occur on the stems of burnished spur pipes (Higgins 2017b). Two of the full name marks are also associated with elaborate schemes of stem decoration. It seems that Taylor must only have marked his best quality pipes and that these were spur forms rather than the more common heel types that form the bulk of the pipes recovered from context 209.

?? One partial stamp was recovered on the base of a heel bowl from context 285, which dates from c1650-60 (Fig 18). None of the rim survives and only the bottom part of the stamp, which had a leaf-like or stylised fleur-de-lys motif under the (presumed) initials, surrounded by a border of fine dots. The style of the mark can be matched with examples made in London. The stem bore is just over 7/64".

Summary and conclusions

These excavations have produced the earliest evidence for smoking yet recorded from Oxford, comprising two pipes of c1580-1610, one of which was probably produced in London and has a previously unrecorded mark on it. There are also a number of later marks, including a gauntlet

stamp on an exceptionally fine pipe from Amesbury that can now be used to identify other examples of these outstanding products. Imports from other production centres are also represented, as well as local marks from in and around Oxford. Research into the Ramsden maker Benjamin Abbott has provided a more accurate framework for dating his pipes, while it has been shown that Oxford maker Miles Higges only marked a small percentage of his pipes and that it may be possible to establish a chronological sequence for the different dies he used.

Perhaps the most significant result of the excavations was the recovery of two large deposits of closely datable mid-seventeenth century pipes. Together with key groups recently excavated from the Queen’s College (Higgins 2017b) it is now possible to establish a tightly dated narrative for the pipes produced and used in Oxford between about 1630 and 1670. A summary of the evidence from these four key deposits has been provided in Table 3. Further groups are clearly needed to test and refine these initial observations, but a number trends can be observed.

With regard to the three basic types of bowls form, it appears that spur types were very common during the earliest period but that they dropped in frequency during the Civil War and Commonwealth periods before enjoying a resurgence in the 1660s. This may be in part because they were generally better quality pipes (more expensive/prestigious) that may not have been as readily available/fashionable during these periods. They were much more frequently burnished than the contemporary heel forms and are typically fully milled.

The pipes with tailed heels are more difficult to evaluate, since this type of heel was characteristic of the West Country forms that were imported into Oxford, which in turn blur the figures given in Table 3. In the earliest group, for example, all seven examples are on West Country pipes imported to the city, as is the single example in the 1650-60 group. This leaves the 1640-60 group as the only one with locally produced forms of this type – and in this instance they occur in a range of forms that were apparently made by at least two of the local manufacturers, representing more than a third of the pipes in use at the time. Perhaps these were simply filling a gap in the market created by disruption in the West Country trade as a result of the war. Alternatively, perhaps the college itself purchased pipes corporately and there was a preference for this particular style.

Table 3: The four key groups from Oxford compared (1630-45 = OXQUPG15 Pit 1475; 1640-50 = OXJL16 Contexts 224, 285 and 286; 1650-60 = OXJL16 Context 209; 1660-70 = OXQUPG15 Pit 1085). This shows the number of bowls that could be identified to a specific form divided into those with spurs (Sp), tailed heels (TH) or round heels (RH) and showing the percentage of the group total (Tot) that these represent. The numbers made of a visibly sandy fabric under a 10x lens are recorded (S Fab), as are the numbers of burnished examples (Bur) and the numbers with each stem bore size from 6/64” to 10/64” (where the bore is measurable). Finally, the number of examples with rim milling, to the nearest quarter are given (M0 = no milling to M4 = fully (four quarters) milled)

| Date | Sp | TH | RH | Tot | S Fab | Marks | Bur | 6/64 | 7/64 | 8/64 | 9/64 | 10/64 | M0 | M1 | M2 | M3 | M4 |
|---------|-------------|-------------|-------------|-----|-------------------|------------|------------|------|------|------|------|-------|----|----|----|----|----|
| 1630-45 | 21 (42%) | 7 (14%) | 22 (44%) | 50 | 32 (64%) | 7 (14%) | 9 (18%) | 1 | 2 | 17 | 26 | 3 | 7 | 0 | 0 | 1 | 42 |
| 1640-50 | 8 (12%) | 24 (35%) | 36 (53%) | 68 | 30-32 (44-47%) | 3 (4%) | 6 (9%) | 1 | 32 | 25 | 8 | 0 | 0 | 0 | 1 | 11 | 48 |
| 1650-60 | 7 (13%) | 1 (2%) | 45 (85%) | 53 | 2-3 (4-6%) | 2 (4%) | 6 (11%) | 0 | 16 | 31 | 2 | 0 | 2 | 0 | 2 | 3 | 42 |
| 1660-70 | 12 (32%) | 0 (0%) | 26 (68%) | 38 | 0 (0%) | 2 (5%) | 6 (16%) | 1 | 23 | 12 | 0 | 0 | 0 | 0 | 3 | 13 | 13 |

Pipes with round heels were the most common form at all periods, but with higher percentages in use during the 1650s and 1660s than previously. A few examples were imported from elsewhere, and these tend to be evident from their marks, form or finish. The local round heel forms were very rarely burnished and, although competently made and usually fully milled, appear to have been the ‘everyday’ types in use rather than anything special. The only exception is a miniature form (Fig 24),

which was finely burnished and finished.

A progressive trend over time is the decreasing use of the local sandy fabric for making pipes (probably obtained from Shotover Hill). The earliest group had the highest incidence of pipes where this fabric could be recognised (64%), and its use must have started very early on in the local industry, since the author has seen it used for pipes of c1610-40. During the Civil War period it was only evident on just under half of the pipe produced, despite Plot's claim that it was used for all pipemaking during the sieges of the city. Use of this clay fell dramatically during the Commonwealth period and it was not seen at all in pipes of the 1660s. Plot (1677) said it was still in use at that time and, certainly, it was much used for later seventeenth and eighteenth century pipes made in the Oxford area. The changing exploitation of this clay over time is certainly something that would repay further study, especially if a more reliable petrological method of identifying it could be employed.

Stamped marks were rather more frequent (14%) in the earliest group studied than the later three (4% or 5%) but quite a number of these at any given period were imports to the city. The local makers rarely seem to have marked their products. The most common early mark in Oxford is that of Miles Higges, but even he only marked a small proportion of his pipes. In the 1660s group, for example, 26 of the pipes seem likely to have come from his workshop (38%) and yet only one of these was stamped with his mark. The stamped example does not seem particularly notable in terms of quality or finish, unlike the later marks of John Taylor, which seem to only occur on high quality products. Burnishing was relatively rare amongst the locally produced pipes in the earliest periods (when Higges was supplying many of the pipes), the overall percentage being inflated by larger numbers of burnished West Country imports in the earliest group. The incidence of burnishing on locally produced pipes increases gradually during the 1650s and 1660s, a trend that continued since it becomes very common on pipes of later periods.

As well as being a prolific maker, it also seems that Miles Higges produced at least some of the pipes decorated with barley twist stems (e.g., Figs 21-23). These occur occasionally all over the country but only ever in small numbers. There seems to be slightly higher concentration than normal of these pipes in Oxford, with nine fragments in total from these excavations (1%), all of which probably date from the c 1640-60 period.

Stem bore data has shown that specific bowl forms are often associated with specific stem bore sizes, reflecting the tools used by an individual manufacturer with a particular mould. When considered collectively, however, these average bore size in each group clearly changes over time. Stem bores of 8/64" and 9/64" are typical of the earliest group, with 9/64" being the most commonly used size. This drops slightly with 7/64" and 8/64" being typical of the 1640s and 1650s until, finally, 7/64" becomes the most commonly used size during the 1660s. An exact value for each group can be calculated by averaging the readings, which gives, in date order, 8.57, 7.61, 7.71 and 7.31 sixty-fourths of an inch. This gradual decrease in size during the course of the century is a well-established phenomenon but it is useful to be able to quantify this change in relation to these well-dated groups from Oxford.

The final trend can be seen in rim milling. The earliest group had almost entirely fully milled rims, the notable exception being seven imported West Country forms that had no milling at all (and so do not reflect local production). The overall quality dropped a little during the Civil War period, perhaps as a result of disruption to the labour force due to the demands of the war, with a higher percentage of rims being only three-quarters milled. Rims were once again almost all fully milled during the 1650s period but the 1660s sees a marked change with as many being three-quarters milled as fully milled.

The detailed observations made possible by comparing these well-dated groups show how many different strands of the information it is possible to follow to help interpret these assemblages. The pipes being consumed at any one period were made up of a mix of locally produced and imported pieces, with different styles and qualities being represented. Individual workshops had different ways of manufacturing, decorating, finishing and marking their products, in addition to which the preferences of individual consumers or corporate purchasers can influence the final mix that creates

the archaeological record. The individual attributes of any given pipe can often narrow its place and date of origin to within a few decades but, when larger groups such as these are available, it is possible to refine their dating to within a few years and to interpret the significance of the assemblage in much greater detail.

Acknowledgement

Thanks are due to Dr Susie White who helped with drawing the pipes and preparing the figures for this report.

Illustrations

The illustrated fragments are shown at 1:1 with the die details of the stamped marks shown at twice life size. The cast and die numbers given for the stamped marks relate to the as yet unpublished national catalogue that is being compiled by the author, a copy of which is held at the National Pipe Archive at the University of Liverpool. Burnished surfaces are indicated with light broken lines. The pipes from the lower fills of quarry pit 225 (contexts 224, 285 and 286) were deposited c1640-50 and are shown in Figures 3-26. The pipes from the overlying fill of quarry pit 225 (context 209) were deposited c1650-60 and are shown in Figures 28-44.

Fig 1 The larger part of a very early bowl type stamped with a previously unrecorded version of a TB mark (Cast 744.30; Die 2230). The bowl form dates from c1580-1610 and is finely burnished with the incuse mark comprising simple unbordered letters. The style of the pipe and mark both suggest a London origin. The pipe has a reduced grey core (a feature characteristic of the earliest pipes) and a stem bore of 7/64". OXJL 16 (319).

Fig 2 Fragment from a very early pipe from of c1580-1610 with the heel trimmed flush with the stem. This piece has a poor quality burnish and is quite roughly made when compared with Figure 1. There are some fine gritty inclusions in the fabric, which does not have a reduced core. Stem bore just over 7/64". OXJL 16 (1205).

Figures 3-26 all come from quarry pit fills deposited c 1640-50 (contexts 224, 285 and 286).

Fig 3 Spur bowl with a half milled rim and a fine burnish. Stem bore 8/64". OXJL 16 (286).

Fig 4 Spur bowl with a fully milled rim and a finely burnished surface. Stem bore 8/64". OXJL 16 (285).

Fig 5 Spur bowl made of a fine sandy fabric with a fully milled rim. Stem bore 8/64". OXJL 16 (224).

Fig 6 Spur bowl with a fully milled rim. Stem bore 7/64". OXJL 16 (224).

Fig 7 Spur bowl with a fully milled rim. Stem bore 9/64". OXJL 16 (224).

Fig 8 Bowl with a tailed heel made of a sandy fabric and with a fully milled rim. Stem bore 8/64". OXJL 16 (286).

Fig 9 Bowl with a tailed heel and a fully milled rim. Stem bore 7/64". OXJL 16 (286).

Fig 10 Bowl made of a sandy fabric with a tailed heel and a three-quarters milled rim. Stem bore 8/64". OXJL 16 (224).

Fig 11 Bowl made of a sandy fabric with a tailed heel and a fully milled rim. Stem bore 8/64". OXJL 16 (224).

Fig 12 Bowl that probably had a tailed heel originally. Fully milled rim. Stem bore 7/64". OXJL 16 (224).

Fig 13 Bowl with a round heel and a fully milled rim. Stem bore 7/64". OXJL 16 (285).

Fig 14 Bowl made of a sandy fabric with a round heel and a fully milled rim. Stem bore 8/64". OXJL 16 (286).

Fig 15 Bowl with a round heel and a fully milled rim. Stem bore 7/64". OXJL 16 (224).

Fig 16 Bowl with a round heel and a fully milled rim. There are also two crossed lines of milling on the base of the heel, the significance of which is unknown. Milled heels occasionally occur in many parts of the country but they tend to be most common in Yorkshire and East Anglia. Stem bore 8/64". OXJL 16 (285).

Fig 17 Bowl with a round heel, a finely burnished surface and a fully milled rim. There is a three-letter maker's stamp on the heel, probably for a husband and wife with the Christian name initials B and C respectively and a surname beginning with an S (Cast 744.29; Die 2232). Probably a London product. Stem bore 8/64". OXJL 16 (224).

Fig 18 Damaged bowl with a round heel and the very bottom of a maker's mark on the heel. This has a little foliage or fleur-de-lys motif below the initials and a finely beaded border (Cast 744.31). Stem bore 7/64". OXJL 16 (285).

Fig 19 Bowl with a round heel stamped with an MH mark and a fully milled rim (Cast 744.27; Die 2125). This can be attributed to the Oxford pipemaker Miles Higgess, who died in 1643 but the mark may well have continued in use until 1649 when his widow's new husband took his freedom. The mould type has a distinctive profile and can be identified by a clear horizontal flaw on the left hand side of the heel, near the stem/heel junction. There are 14 other examples of this mould type from contexts 224, 285 and 286, showing that Higgess only marked a small proportion of his products. What appears to be the same mould type was also recovered at the Ashmolean excavations, where one example was found stamped with this same die type and another was found without. This mould type is also very similar to the bowl forms shown in Figures 20 and 22, which have a similar flaw on the left hand side of the heel. They also seem to have additional flaws on the right hand side, perhaps suggesting that it is the same mould that has been modified. The illustrated example appears to have some very fine sandy particles in its fabric. It has a stem bore of 7/64" and was recovered from OXJL 16 (224).

Fig 20 Bowl with a round heel and a fully milled rim (one of 10 bowls made in this mould from contexts 224, 285 and 286). The design is very similar to Figure 20, and it may well be the same Miles Higgess mould that has been modified (see Fig 20 text). There are distinctive flaws on both sides of the heel. Stem bore 7/64". OXJL 16 (286).

Fig 21 Two joining stem sections with 'barley twist' decoration, formed by the pipemaker having alternately pinched the clay while it was still soft. Perhaps from the same pipe as the bowl shown in Fig 22. The mouthpiece itself is broken off, but the decoration clearly stopped a short way from this. Stem bore 7/64". OXJL 16 (286).

Fig 22 Bowl with a round heel and a three-quarters milled rim. The bowl is poorly moulded with surface folds in the clay forming the bowl but it is almost certainly from the same mould as Fig 20 and most likely from the Higgess workshop (see captions for Figs 19-20). The stem has been alternately pinched to form 'barley twist' decoration while still soft and it is perhaps from the same pipe as the stem sections shown in Fig 21. Stem bore 8/64". OXJL 16 (286).

Fig 23 A stem section with 'barley twist' decoration, formed by the pipemaker having alternately pinched the clay while it was still soft. Stem bore 7/64". OXJL 16 (285).

Fig 24 A miniature pipe bowl with a round heel and what was almost certainly a fully milled rim (one small section chipped away). The bowl is finely burnished and has a stem bore of 7/64". OXJL 16 (285).

Fig 25 Bowl with a round heel and a fully milled rim. The bowl is much larger than any others from the early group but comparable with Fig 43 from the c1650-60 group, suggesting that it may be intrusive. Stem bore 7/64". OXJL 16 (224).

Fig 26 Round heel fragment with a good burnish and a stem bore of 7/64". Some fine sandy particles in the fabric. The heel is much larger than any others from the early group suggesting that it may be intrusive. OXJL 16 (285).

Fig 27 Pipe bowl with a round heel stamped with an MH mark for Miles Higgess of Oxford (Cast 744.26; Die 2125). The bowl form would normally be dated c1640-1660, but Higgess died in 1643 and the mark is unlikely to have been used after 1649 (see caption for Fig 19), so this piece can be dated to c1640-50. The pipe is made of a fine sandy fabric and has a good burnish and three-quarters milled rim. Stem bore 8/64". OXJL 16 (360).

Figures 28-44 all come from quarry pit fill 209, deposited c 1650-60.

Fig 28 Stem fragment with 'barley twist' decoration, formed by the pipemaker having alternately pinched the clay while it was still soft. Stem bore about 8/64". OXJL 16 (209).

Fig 29 Stem fragment with possible 'barley twist' decoration. This piece has just two clear indentations and they are at a distance from the bowl junction and so it is possible that this is some form of accidental damage rather than intentional decoration. Stem bore 7/64". OXJL 16 (209).

Fig 30 Stem fragment with 'barley twist' decoration, formed by the pipemaker having alternately pinched the clay while it was still soft. Stem bore about 8/64". OXJL 16 (209).

Fig 31 Stem fragment that has been modified after firing by having a small hole drilled through to the bore with a narrow point. There is also a sharp knife cut across the stem at this point. It is not clear where the mould seams are on this piece of stem, so it is unclear which orientation the hole is in relation to the top. Stem bore 8/64". OXJL 16 (209).

Fig 32 Spur bowl with a fully milled rim. Some scrape marks caused during manufacture on the front right hand side of the bowl. Stem bore 8/64". OXJL 16 (209).

Fig 33 Spur bowl with a half milled rim.. Stem bore 8/64". OXJL 16 (209).

Fig 34 Spur bowl with a fully milled rim and a good burnish. Stem bore 8/64". OXJL 16 (209).

Fig 35 Spur bowl with a fine burnish and a milled rim (probably fully milled originally, but now partially chipped away). There is a relief IT stamp across the stem, 20mm from the bowl, for John Taylor of Oxford, who took his freedom in 1649 and died in 1684 (Cast 745.5; Die 2285). Stem bore 8/64". OXJL 16 (209).

Fig 36 Heel bowl with a bottered rim, but no milling. Rather poorly made with scrape marks on the right hand side of the bowl and the heel trimmed at an odd angle. Unusually small form for this group. Stem bore 8/64". OXJL 16 (209).

Fig 37 Heel bowl with a fully milled rim. Stem bore 8/64". This bowl represents a common type in this group, with a total of ten examples present. These are typically well-made and finished and cannot be separated into individual mould types, even though several are likely to be represented. OXJL 16 (209).

Fig 38 Neatly designed and manufactured heel bowl with a fully milled rim but the heel trimmed at an odd angle. Stem bore 7/64". OXJL 16 (209).

Fig 39 Heel bowl with a bottered rim, but no milling. Rather poorly made from a fabric with very fine sandy inclusions. Stem bore 7/64". OXJL 16 (209).

Fig 40 Heel bowl with a fully milled rim. Unusually large and heavy bowl with a chunky form and thick stem. Made from a fine sandy fabric, which is now a slightly greyish colour (possibly burnt). Stem bore 8/64". OXJL 16 (209).

Fig 41 Heel bowl with a fully milled rim. Stem bore 8/64". This is the most typical form in the c1650-60 group, with 21 similar examples in total. These exhibit a range of minor differences, suggesting that several different moulds are represented, but these cannot be distinguished from flaws into individual mould types. They are typically well-made and finished in a hard fired fabric and with fully milled rims – a very uniform and competantly made product. OXJL 16 (209).

Fig 42 Neatly made heel bowl with a fully milled rim. Stem bore 7/64". OXJL 16 (209).

Fig 43 Neatly made heel bowl with a fully milled rim. Stem bore 7/64". This is the largest size represented in the c1650-60 group and would normally be dated to c1650-70 when found in isolation. There are, however, five examples of this type in the group and it fits well with being at the larger end of the range represented by Figs 37 and 41-42. OXJL 16 (209).

Fig 44 An extremely finely made West Country style bowl fragment of c1650-60. The bowl is missing but the tailed (tear-drop) shaped heel cut flush with the stem survives with an impressed gauntlet symbol on it, the thumb facing to the right (Cast 745.4; Die 2231). The pipe is exceptionally well made with a relatively thin stem (when compared with the other contemporary pipes in the group) and quite a marked taper, showing that this would not have been a particularly long pipe. The stem is very straight with a neat circular cross-section and the whole surface has been and very finely burnished giving it an even sheen and silky feel. This is an extremely well-produced and finished pipe that would have been a 'top of the range' product, and which would have cost significantly more than the other pipes from this context. This example can be attributed to the Gauntlet(t) family of Amesbury in Wiltshire, who were famous during the seventeenth century for their production of high quality pipes and who used the gauntlet mark as a rebus for their surname. Stem bore 8/64". OXJL 16 (209).

Fig 45 Heel fragment from a West Country style bowl stamped with a gauntlet mark depicted with its thumb to the right (Cast 745.3; Die too abraded to allocate a unique number). The bowl was

burnished originally but is now too weathered to grade the quality of the burnish. Either a product of the Gauntlett family of Amesbury in Wiltshire, or a copy of one of their products. Stem bore just over 7/64". OXJL 16 (1000).

Fig 46 A stem of c1690-1730 with a good burnish and a poorly impressed Edward Beasten mark, a maker who probably worked in the Berkshire/Hampshire border area (Cast 745.2; probably Die 2124). His products were widely marketed and several other examples have been found in and around Oxford. Stem bore 6/64". OXJL 16 (1000).

Fig 47 A large, chunky, local style spur bowl of c1670-90 made of a fine sandy fabric and with an average burnish. The rim is bottered and half milled. Stem bore 8/64". OXJL 16 (000).

Fig 48 A stem fragment of c1740-70 with a rectangular relief stamp across the stem reading BEN/ABB/OTT (Cast 745.1; Die 2233). Benjamin Abbott is recorded at Ramsden, Oxfordshire, in 1746 and 1757 (marriages) and 1758 (took William Hopkins apprentice). The stem is made of a local fabric with fine sandy inclusions. The stamp has been placed about 48mm from the bowl junction and an average quality burnish has been applied to the stem, but avoiding the mark, which shows that the pipe was burnished after the stamp had been impressed. Stem bore just over 5/64". OXJL 16 (1000).

Fig 49 A piece of pipe kiln supplement, comprising a hand-formed roll of white pipeclay that has been pinched together at one end to cut it while still soft. This type of object was typically used within the kiln to help with loading and stabilising the pipes during firing. This piece most likely dates from the seventeenth or eighteenth century, with the latest pipes from this context dating from c1700-60. OXJL 16 (1003).

References

Atkinson D. and Oswald A., 1969, 'London Clay Tobacco Pipes', *Journal of the British Archaeological Association*, Third Series, **XXXII**, 171-227.

Cannon, P., 2000, 'Clay Tobacco Pipes', in, C. Bateman, D. Enright, N. Oakley, *et al*, *Medieval Oxford's Northern Suburb: Evidence from Recent Work at 1-12 Magdalen Street*, unpublished report prepared by Cotswold Archaeology (Report No 001244); available at <http://reports.cotswoldarchaeology.co.uk/report/debenhams-1-2-magdalen-street/> (accessed 5-9-2017).

Fuller, T., 1662, *The History of the Worthies of England, Who for Parts and Learning have been eminent in the several Counties: Together with an Historical Narrative of the Native Commodities and Rarities in each County*, Thomas Williams, London.

Higgins, D. A., 1981, 'Surrey Clay Tobacco Pipes', in P. J. Davey (ed.), *The Archaeology of the Clay Tobacco Pipe*, **VI**, British Archaeological Reports, Oxford, British Series 97, 189-293.

Higgins D. A., 1987, *The Interpretation and Regional Study of Clay Tobacco Pipes: A Case Study of the Broseley District*, doctoral thesis submitted to the University of Liverpool, 628pp (available online at https://www.academia.edu/34528546/Higgins_1987_-_The_Interpretation_and_Regional_Study_of_Clay_Tobacco_Pipes).

Higgins, D. A., 2007a, 'Clay Tobacco Pipes' in J Munby, A Simmonds, R. Tyler and D. R. P. Wilkinson, *From Stadium to Station, Rewley Abbey and Rewley Road Station, Oxford*, Oxford Archaeology

Occasional Paper Number 16, 43-52 (viii + 105pp).

Higgins D. A., 2007b, 'Clay Tobacco Pipes', in K. Brady, A. Smith, G. Laws, *et al*, 'Excavations at Abingdon West Central Redevelopment: Iron Age, Roman, Medieval, and Post-Medieval Activity in Abingdon', *Oxoniensia*, **LXXII**, 157-76 (107-202).

Higgins, D. A., 2010, 'Clay Tobacco Pipes from Excavations at the Ashmolean Museum, Oxford, 2006 (OXASHE 2006.68)', unpublished report prepared for Oxford Archaeology.

Higgins, D. A., 2012, 'The Earliest Known Clay Tobacco Pipe Mould', *Post-Medieval Archaeology*, **46/2**, 361-366.

Higgins, D. A., 2017a, *Guidelines for the Recovery and Processing of Clay Tobacco Pipes from Archaeological Projects (Version 1.2)*, online at [http://www.pipearchive.co.uk/pdfs/howto/How%20to%20guidelines%20\(ver%201_2\)%203-9-17.pdf](http://www.pipearchive.co.uk/pdfs/howto/How%20to%20guidelines%20(ver%201_2)%203-9-17.pdf)

Higgins, D. A., 2017b, 'Clay Tobacco Pipes from Excavations in the Provost's Garden, The Queen's College, Oxford (OXQUPG 15)', unpublished report prepared for Oxford Archaeology.

Higgins D. A. & Davey, P. J., 2004, 'Appendix 4: Draft Guidelines for using the Clay Tobacco Pipe Record Sheets' in S. D. White, *The Dynamics of Regionalisation and Trade: Yorkshire Clay Tobacco Pipes c1600-1800*, British Archaeological Reports, Oxford, British Series No 374, 487-90 (567pp).

Le Cheminant, R., 1981, 'Clay Tobacco Pipes from London and the South East', in P. Davey (ed.), *The Archaeology of the Clay Tobacco Pipe*, **VI**, British Archaeological Reports, British Series 97, Oxford, 127-172 (293pp).

Oswald, A., 1984, 'Clay Pipes' in T. G. Halsell, C. E. Halpin & M. Mellor, 'Excavations in St Ebbe's, Oxford, 1967-76', *Oxoniensia*, **XLIX**, 251-262 (153-266).

Oswald, A., 1975, *Clay Pipes for the Archaeologist*, British Archaeological Reports, British Series 14, Oxford, 207pp.

Oswald, A, 1991, *Pipe Stamp Index (4 Vols)*, unpublished research notes and sketches of pipe bowl forms and marks, a copy of which is held at the National Pipe Archive at the University of Liverpool (LIVNP 1997.8).

Plot, R., 1677, *The Natural History of Oxfordshire . . .*, Oxford.

Price, R., 2007, 'John Taylor of Oxford', *Society for Clay Pipe Research Newsletter*, **72**, 18-21.

Price, R., 2013, *Bristol Pipemaking Families of the 17TH to 20TH Centuries*, working draft held at the National Pipe Archive, which is currently housed at the University of Liverpool.

Stevens, E. T., 1882, *Jottings on some of the Objects of Interest in the Stonehenge Excursion*, Brown & Co, Salisbury.

Walker, Iain C., 1977, *Clay Tobacco Pipes, With Particular Reference to the Bristol Industry*, History and Archaeology, Vols 11a-11d, Parks Canada, Ottawa, xxii + 1839pp.

White, S. D., 2004, *The Dynamics of Regionalisation and Trade: Yorkshire Clay Tobacco Pipes c1600-1800*, (P. Davey & D. A. Higgins eds.), British Archaeological Reports, British Series 374, Oxford, 567pp.